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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,145	10/09/2001	Kenneth J. Rothschild	AMBER-06819	5594

23535 7590 02/13/2004  
MEDLEN & CARROLL, LLP  
101 HOWARD STREET  
SUITE 350  
SAN FRANCISCO, CA 94105

EXAMINER

KETTER, JAMES S

ART UNIT PAPER NUMBER

1636

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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APPLICATION NO/ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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020604

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

--See attached--

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/973,145		ROTHSCHILD ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	James S. Ketter		1636	

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 49-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 49-69 is/are rejected.
- 7) ☒ Claim(s) 53, 53, 62 and 63 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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As there was no claim 59 filed, claims originally numbered as 60-70 have been renumbered as 59-69 in accordance with 37 CFR § 1.126. All claim number references hereinafter will reflect the claims as renumbered. If, during future prosecution, Applicants file any new claims, they should be numbered starting with "70".

Claims 52, 53, 62 and 63 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The claims each recite cellular or in vivo systems. However, the independent claims 49 and 59 each are limited to "an in vitro translation system". Neither a cellular system nor an in vivo system would fall within the scope of an "in vitro translation system". In the art, "in vitro translation" is and was understood to refer to acellular systems, i.e., those making use of extracts or synthesized components.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 49-69 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 10-12 of U.S. Patent No. 6,303,337, as follows: instant claims 49, 50, 58-60, 68 and 69 over patented claim 1; instant claims 51-54 and 61-64 over patented claims 2-5, respectively; and instant claims 55-57 and 65-67 over patented claims 10-12, respectively. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). Although the conflicting claims are not identical, they are not patentably distinct from each other because, in the case of instant claims 49-57, they are generic to all that is recited in the respective claims of the patent, i.e., the patented claims fall entirely within the scope of each of instant claims 49-57. With respect to the remaining claims 58-69, in each instance the claimed subject matter is drawn to an embodiment encompassed by the patented claim. As such, the instant claims are not patentably distinct from the patented claims even though each instant claim may be of narrower scope than the respective patented claim, i.e., that portion of the patent specification which supports each of the respective patent claims sets forth the instantly claimed invention. With respect to claims 58, 68 and 69, at column 9, third paragraph, the specification of the patent discloses that both two and three marker embodiments of the invention include use of PCR or primer extension, and thus the patented claim, being supported in part by this portion of the specification, would have been

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understood to encompass already instant claims 58, 68 and 69. With respect to instant claims 59-69, the limitation in claim 59 that the nucleic acid codes for a disease-associated protein renders these claims narrower than the corresponding patented claims in each instance. However, at column 48, second paragraph, and the subsequent paragraph bridging columns 48 and 49, the specification of the patent discloses that the method may be used to detect truncated proteins with respect to a number of diseases. Thus, the patented claims, being supported in part by this portion of the specification, would have been understood to encompass already instant claims 59-69.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 49-69 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for insertion of the markers by means of misaminoacylated tRNAs, does not reasonably provide enablement for other methods of incorporating a marker into a protein during translation. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or practice the invention commensurate in scope with these claims.

The following factors have been considered in the rejection:

The Nature of the Invention. Independent claims 49 and 59 refer to a translation system.

Clearly, a translation system incorporates amino acids into the nascent polypeptide chain as

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determined by the mRNA being translated. To incorporate a marker, Applicants have taught the use of misaminoacylated tRNAs such that a modified, i.e., labeled amino acid may be added to the chain. However, this still must occur based upon a triplet in the mRNA being read by the translation system. To add amino acids not coded for, but simply added beyond the reading frame present in the mRNA, would not be part of the translation process. It is emphasized that the claims recite that the translation system acts to make the incorporation, and not a post-translational mechanism.

The amount of direction or guidance present in the specification, and the presence or absence of working examples. The specification only teaches the use of misaminoacylated tRNAs to incorporate modified/labeled amino acid residues into the nascent chain. No guidance toward adding labels to the polypeptide outside of the encoded region is set forth, nor are examples provided of such.

The state of the art. It is not apparent that the prior art taught a means of causing a translational system to incorporate markers in a nascent polypeptide other than the use of misaminoacylated tRNAs, which of course, by virtue of mimicking properly charged tRNAs, are taken up and incorporated by the translational machinery.

The breadth of the claims. The claims as written would encompass the use of essentially any kind of marker, no matter its structure or manner of incorporation.

The predictability or unpredictability of the art, the amount of experimentation required and the relative level of skill of those in the art. While there might be other enzymatic systems which could operate during the translation process to put a marker into the nascent polypeptide chain, or particular markers which would have this property innately (and rather peculiarly), one

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of skill in the art would not have been able to predict their existence, or to predict that any known system would behave thus. Finding such a system or marker would involve trial-and-error experimentation, and searching among a vast number of possible enzymes or markers. It is not apparent that practitioners in this particular art are excessively well-skilled for the practice of such methods, i.e., devising such a new system or marker would not constitute mere routine, technician work, but would require high skill even to attempt such trial-and-error experimenting.

Conclusion. Were the skilled practitioner to attempt to practice the claimed invention for other than methods employing misaminoacylated tRNAs to incorporate the markers during translation, said practitioner first would have turned to the specification for guidance in selecting other systems or markers to do so. However, as set forth above, the specification does not provide teachings for systems other than misaminoacylated tRNAs. The skilled practitioner then would have turned to the prior art for such teachings, but again, as set forth above, the prior art did not offer such teachings. Finally, the skilled practitioner would have been forced to turn to empirical experimentation to find such a system or marker. However, such experimentation is of a trial-and-error nature, and in the context of a lack of guidance from either the specification or the art, and in view of the breadth of the claims, i.e., the very broad field of search that such experimentation would enter, such experimentation would have been deemed undue.

Certain papers related to this application, OTHER THAN OFFICIAL RESPONSES, may be submitted directly to the Examiner by facsimile transmission at (571) 273-0770. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61



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(November 16, 1993) and 1157 OG 94 (December 28, 1993)(see 37 CFR ' 1.6(d)). (703) 872-9306 may be used without notification of the Examiner, with such faxed papers being handled in the manner of mailed responses. Applicant is encouraged to use the latter fax number unless immediate action by the Examiner is required, e.g., during discussions of claim language for allowable subject matter. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the Examiner with respect to the examination on the merits should be directed to James Ketter whose telephone number is (571) 272-0770. The Examiner normally can be reached on M-F (9:00-6:30), with alternate Fridays off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Remy Yucel, can be reached at (571) 272-0781.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1234.

Jsk  
February 6, 2004



JAMES KETTER  
PRIMARY EXAMINER